Abstract

Fluctuations are inherent property of many physical systems in biology, epidemiology, finance and chemical reactions. They are recognized as unknown disturbances or stochastic effects. In order to describe the system embedded with the above effect, the system is modelled using stochastic differential equations (SDEs). This work is carried out to model the growth of C. acetobutylicum P262 in batch fermentation and solvent production using SDE. Since, the analytical solutions of this SDE are complex, a numerical simulation is applied to approximate the strong solution of the SDE. This paper also discusses the use of three different numerical methods in modelling the growth of C. acetobutylicum P262 and solvent production.